Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

impaired. We suggest that, in future studies, the approach to measuring education should be made explicit.

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118184

Fluoxetine suppresses Th17-cells function via 5-HT2b-receptor in multiple sclerosis

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Background and aims

Fluoxetine is a selective serotonin reuptake inhibitor, which also has an immunomodulatory effect. This study aimed to clarify the influence of fluoxetine on Th17-cells, which plays a crucial role in MS pathogenesis.

Methods

Thirty MS patients and twenty controls were examined. To assess the effect of fluoxetine on Th17-cells, $CD4^+$ T-cells were cultured in the presence of fluoxetine and stimulated with anti-CD3/anti-CD28-antibodies. To study the involvement of 5-HT2b-receptor in fluoxetine-mediated immunomodulation, $CD4^+$ T-cells were pre-incubated with antagonists of or agonist of 5-HT2b-receptor, whereafter fluoxetine and anti-CD3/anti-CD28-antibodies were added to the cultures. To assess the direct effect of 5-HT2b-receptor activation on cytokine production, some samples of $CD4^+$ T-cells were preincubated with a specific agonist of 5-HT2b-receptor and stimulated as described above. The levels of IL-17, IFN-γ, and GM-CSF in culture supernatants were assessed by ELISA.

Results

Fluoxetine suppressed IL-17, IFN-γ, and GM-CSF production by stimulated $CD4^+$ T-cells in both groups. Blockade of $5\text{-}HT_{2B}$-receptors decreased the inhibitory effect of fluoxetine on cytokine production in MS patients. Finally, $5\text{-}HT_{2B}$-receptor activation inhibits IL-17, IFN-γ, and GM-CSF production in both groups.

Conclusions

These data suggest an anti-inflammatory role for fluoxetine in MS, which could be mediated by the activation of $5\text{-}HT_{2B}$-receptors. The study was supported by the Russian Foundation for Basic Research grant 18-315-00436.

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118185

Alexithymia in patients with multiple sclerosis

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Background and aims

To study the prevalence of alexithymia in patients with multiple sclerosis (MS) and to determine the factors related to it.

Methods

We conducted a cross-sectional, descriptive and analytical study, which took place in the neurology department, at the Habib Bourguiba University Hospital in Sfax. It involved MS patients in remission phase (Mc Donald criteria 2017). Data collection was done using a form exploring sociodemographic, clinical and radiological data. We used the Toronto Alexithymia Scale (TAS-20) and the Expanded Disability Status Scale (EDSS).

Results

Our study included 93 patients followed for MS. The mean age of our patients was 36.59 ± 10.69 years with a sex ratio (M/F) of 0.45. The participants were married in 57% of cases. The total number of relapses ranged from 1 to 30, with a median of 5. The EDSS score ranged from 0 to 8, with a median of 3.5. A temporal lesion on brain imaging was found in 29% of cases. Alexithymia was found in 54 MS patients (58.1%). It was more frequent in unmarried (single and divorced) patients ($p = 0.028$). Among clinical and radiological factors, the number of relapses and the EDSS score were higher ($p = 0.035$ and $p = 0.000$, respectively) and temporal lesion on brain imaging was more frequent in alexithymic patients ($p = 0.045$).

Conclusions

Our study shows that alexithymia affects more than half of the patients followed for MS. Therefore, we propose to develop training programmes for neurologists to detect and manage alexithymic patients at an early stage.

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118186

Inflammatory optic neuropathy following SARS-CoV-2 mRNA vaccine: Description of two cases

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Background and aims

A wide range of immune mediated inflammatory events have been temporally associated with vaccinations, and usually appear within weeks after the immunization, although more rarely the delay is longer. Among inflammatory events, optic neuritis is known to be the most common isolated inflammatory syndrome of the central nervous system (CNS) following vaccinations. It has still to be clarified whether optic neuritis will remain an isolated episode or it may represent the first clinical manifestation of a chronic autoimmune disease.

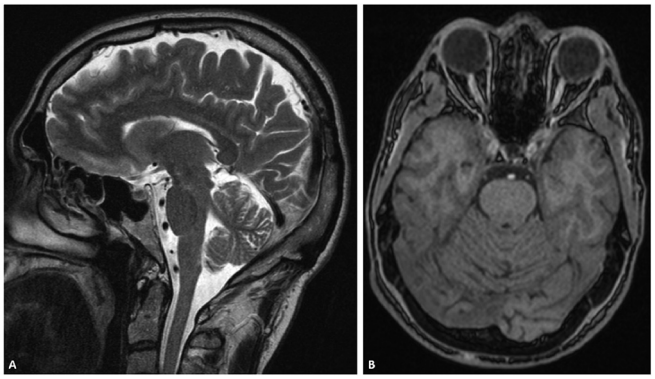
Methods

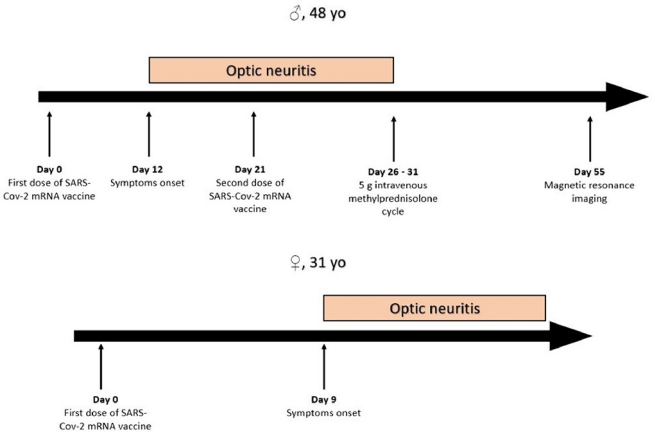
Description of clinical history, examination, neuroimaging and treatment of two patients with optic neuritis closely following SARS-CoV-2 mRNA vaccination.

Results

Two patients aged 48 and 31 years presented with acute optic neuritis a few days after SARS-CoV-2 mRNA vaccination (Fig. 1). The

first patient had a typical presentation of unilateral retrobulbar optic neuritis and was treated with intravenous methylprednisolone with partial recovery. Magnetic resonance imaging (MRI) was unremarkable (Fig. 2). The second patient had a transient loss of vision after exposure to high temperature (Uhthoff's phenomenon) followed by persistent monocular dyschromatopsia and central scotoma.





Conclusions

The two cases we report might represent a rare adverse reaction to SARS-CoV-2 mRNA vaccination. Given the low risk of inflammatory CNS disease following vaccinations and the risk of onset or relapse of CNS demyelination after infections, vaccination benefits outweigh risks. The relationship between mRNA vaccination and later development of CNS demyelinating diseases has still to be ascertained. Clinical and radiological follow up of patients will help clarify this controversial association.

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118187

Balance disorders in multiple sclerosis: The use of postural test in functional clinical assessment

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Background and aims

Multiple sclerosis (MS) is a demyelinating disease of the central nervous system (CNS). A high prevalence of balance disorders has been reported in persons with MS (PwMS), even in the early stages and with minimal disability. Posturography is the current gold standard for balance assessment. Aim of this study was to analyse instability in a cohort of PwMS through postural tests and static posturography and to investigate their correlation with the Extended Disability Status Scale (EDSS) score.

Methods

We performed a retrospective analysis on 72 PwMS prospectively recruited from 1 May 2015 to 31 October 2019. An in-house standardized postural test and conventional static posturography were performed in every patient. Posturographic data were processed using the Equilibrium software. We used Spearman's rank correlations to relate disability and clinical data obtained from postural tests.

Results

48/72 PwMS (66.6%) were female. Mean age was 46.8 (11.6) years, median EDSS 3.5 (IQR 2.5–4.5). The majority (81%) of stabilometric tests were altered. Patients with higher EDSS showed the worst performances. Postural tests, including asymmetric bipodal load, demonstrated high sensitivity but moderate specificity in capturing postural instability when compared to stabilometric measures.